Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (canceled)
2. (canceled)
3. (canceled)
4. (canceled)

5. (original) A computer system, comprising:

a processor programmed to perform an arithmetic performance attribution computation to determine portfolio performance, relative to a benchmark, over multiple time periods t, where t varies from 1 to T, by determining coefficients $(A + \alpha_t)$, where the values α_t are defined as

$$\alpha_t = \left[\frac{R - \overline{R} - A\sum_{k=1}^{T}(R_k - \overline{R}_k)}{\sum_{k=1}^{T}(R_k - \overline{R}_k)^2} \right](R_t - \overline{R}_t),$$

where A has any predetermined value, R_t is a portfolio return for period t, $\overline{R}_t$ is a benchmark return for period t, R is determined by

$$R = [\prod_{t=1}^{T}(1 + R_t)] - 1,$$

and $\overline{R}$ is determined by

$$\overline{R} = [\prod_{t=1}^{T}(1 + \overline{R}_t)] - 1;$$

and determining the portfolio relative performance as

$$R - \overline{R} = \sum_{t=1}^{T}(A + \alpha_t)(R_t - \overline{R}_t); \text{ and}$$

a display device coupled to the processor for displaying a result of the arithmetic performance attribution computation.

6. (original) A computer readable medium which stores code for programming a processor to perform an arithmetic performance attribution computation to determine portfolio performance, relative to a benchmark, over multiple time periods t, where t varies from 1 to T, by determining coefficients $(A + \alpha_t)$, where the values α_t are defined as

$$\alpha_t = \left[\frac{R - \overline{R} - A\sum_{k=1}^{T}(R_k - \overline{R}_k)}{\sum_{k=1}^{T}(R_k - \overline{R}_k)^2} \right](R_t - \overline{R}_t),$$

where A has any predetermined value, R_t is a portfolio return for period t, $\overline{R}_t$ is a benchmark return for period t, R is determined by

$$R = [\prod_{t=1}^{T}(1 + R_t)] - 1,$$

and $\overline{R}$ is determined by

$$\overline{R} = [\prod_{t=1}^{T}(1 + \overline{R}_t)] - 1;$$

and determining the portfolio relative performance as $R - \overline{R} = \sum_{t=1}^{T}(A + \alpha_t)(R_t - \overline{R}_t)$.

7. (canceled)

8. (canceled)

9. (canceled)

10. (original) A computer system, comprising:

a processor programmed to perform a geometric performance attribution computation to determine portfolio performance, relative to a benchmark, over multiple time periods t, where t varies from 1 to T, by determining attribution effects for issue selection $(1 + I_{it}^{G})$ given by

$$1 + I_{it}^{G} = \frac{1 + w_{it}r_{it}}{1 + w_{it}\overline{r}_{it}}\Gamma_t^I ,$$

and determining attribution effects for sector selection $(1 + S_{it}^{G})$ given by

$$1 + S_{it}^G = \left(\frac{1 + w_{it}\bar{r}_{it}}{1 + \bar{w}_{it}\bar{r}_{it}}\right)\left(\frac{1 + \bar{w}_{it}\bar{R}_t}{1 + w_{it}\bar{R}_t}\right)\Gamma_t^S \ ,$$

where r_{jt} is a portfolio return for sector j for period t, $\bar{r}_{jt}$ is a benchmark return for sector j for period t, w_{jt} is a weight for r_{jt}, $\bar{w}_{jt}$ is a weight for $\bar{r}_{jt}$, R is determined by

$$R = [\prod_{t=1}^{T}(1 + R_t)] - 1$$

and $\bar{R}$ is determined by

$$\bar{R} = [\prod_{t=1}^{T}(1 + \bar{R}_t)] - 1,$$

and determining the portfolio performance as

$$\frac{1 + R}{1 + \bar{R}} = \prod_{t=1}^{T}\prod_{i=1}^{N}(1 + I_{it}^G)(1 + S_{it}^G);$$

and

a display device coupled to the processor for displaying a result of the geometric performance attribution computation.

11. (original) The system of claim 10, wherein the values of Γ_t^I are

$$\Gamma_t^I = \left[\frac{1 + R_t}{1 + \tilde{R}_t}\prod_{j=1}^{N}\left(\frac{1 + w_{jt}\bar{r}_{jt}}{1 + w_{jt}r_{jt}}\right)\right]^{1/N} \quad \text{and the values of } \Gamma_t^S \text{ are}$$

$$\Gamma_t^S = \left[\frac{1 + \tilde{R}_t}{1 + \bar{R}_t}\prod_{j=1}^{N}\left(\frac{1 + \bar{w}_{jt}\bar{r}_{jt}}{1 + w_{jt}\bar{r}_{jt}}\right)\left(\frac{1 + w_{jt}\bar{R}_t}{1 + \bar{w}_{jt}\bar{R}_t}\right)\right]^{1/N} \ .$$

12. (original) A computer readable medium which stores code for programming a processor to perform a geometric performance attribution computation to determine portfolio performance, relative to a benchmark, over multiple time periods t, where t varies from 1 to T, by determining attribution effects for issue selection $(1 + I_{it}^G)$ given by

$$1 + I_{it}^G = \frac{1 + w_{it}r_{it}}{1 + w_{it}\bar{r}_{it}}\Gamma_t^I \ ,$$

and determining attribution effects for sector selection $(1 + S_{it}^G)$ given by

$$1 + S_{it}^G = \left(\frac{1 + w_{it}\bar{r}_{it}}{1 + \overline{w}_{it}\bar{r}_{it}}\right)\left(\frac{1 + \overline{w}_{it}\overline{R}_t}{1 + w_{it}\overline{R}_t}\right)\Gamma_t^S \ ,$$

where r_{jt} is a portfolio return for sector j for period t, $\bar{r}_{jt}$ is a benchmark return for

sector j for period t, w_{jt} is a weight for r_{jt}, $\overline{w}_{jt}$ is a weight for $\bar{r}_{jt}$, R is determined by

$$R = [\prod_{t=1}^{T}(1 + R_t)] - 1$$

and $\overline{R}$ is determined by

$$\overline{R} = [\prod_{t=1}^{T}(1 + \overline{R}_t)] - 1 \ ; \text{ and determining the portfolio performance as}$$

$$\frac{1 + R}{1 + \overline{R}} = \prod_{t=1}^{T}\prod_{i=1}^{N}(1 + I_{it}^G)(1 + S_{it}^G).$$

13. (original) The computer readable medium of claim 12, wherein the values of

$\Gamma_t^{\ 1}$ are $\Gamma_t^I = \left[\frac{1 + R_t}{1 + \tilde{R}_t}\prod_{j=1}^{N}\left(\frac{1 + w_{jt}\bar{r}_{jt}}{1 + w_{jt}r_{jt}}\right)\right]^{1/N}$ and the values of Γ_t^S are

$$\Gamma_t^S = \left[\frac{1 + \tilde{R}_t}{1 + \overline{R}_t}\prod_{j=1}^{N}\left(\frac{1 + \overline{w}_{jt}\bar{r}_{jt}}{1 + w_{jt}\bar{r}_{jt}}\right)\left(\frac{1 + w_{jt}\overline{R}_t}{1 + \overline{w}_{jt}\overline{R}_t}\right)\right]^{1/N} \ .$$

14. (canceled)

15. (canceled)

16. (original) A computer system, comprising:

a processor programmed to perform a geometric performance attribution
computation to determine portfolio performance, relative to a benchmark, over multiple
time periods t, where t varies from 1 to T, by determining attribution effects $1 + Q_{ijt}^G$

given by

$$1 + Q_{ijt}^G = \prod_k\left(\frac{1 + a_{ijt}^k}{1 + b_{ijt}^k}\right)\Gamma_{ijt}^k \ ,$$

where Γ_{ijt}^k are corrective terms that satisfy the constraint $\prod_{ij}(1+Q_{ijt}^G)=\dfrac{1+R_t}{1+\overline{R}_t}$, each of

$a^k{}_{ijt}$ and $b^k{}_{ijt}$ is a coefficient for attribution effect j, sector i, and period t, the

coefficients a_{ijt}^k and b_{ijt}^k are obtained from arithmetic attribution effects

$Q_{ijt}^A=\sum_k a_{ijt}^k-\sum_k b_{ijt}^k$ which correspond to the attribution effects $1+Q_{ijt}^G$, R_t is a

portfolio return for period t, $\overline{R}_t$ is a benchmark return for period t, R is determined by

$$R=[\prod_{t=1}^{T}(1+R_t)]-1$$

and $\overline{R}$ is determined by

$$\overline{R}=[\prod_{t=1}^{T}(1+\overline{R}_t)]-1\text{, and}$$

determining the portfolio performance as $\dfrac{1+R}{1+\overline{R}}=\prod_{t=1}^{T}\prod_{i=1}^{N}\prod_{j=1}^{M}(1+Q_{ijt}^G)$; and

a display device coupled to the processor for displaying a result of the
geometric performance attribution computation.

17. (original) The system of claim 16, wherein M = 2, $1+Q_{i1t}^G$ are attribution

effects for issue election given by $1+Q_{i1t}^G=\dfrac{1+w_{it}r_{it}}{1+w_{it}\overline{r}_{it}}\Gamma_t^I$, and $1+Q_{i2t}^G$ are attribution

effects for sector selection given by $1+Q_{i2t}^G=\left(\dfrac{1+w_{it}\overline{r}_{it}}{1+\overline{w}_{it}\overline{r}_{it}}\right)\left(\dfrac{1+\overline{w}_{it}\overline{R}_t}{1+w_{it}\overline{R}_t}\right)\Gamma_t^S$,

where r_{it} is a portfolio return for sector i for period t, $\overline{r}_{it}$ is a benchmark return for

sector i for period t, w_{it} is a weight for r_{it}, $\overline{w}_{it}$ is a weight for $\overline{r}_{it}$, the values of Γ_t^I are

$$\Gamma_t^I=\left[\frac{1+R_t}{1+\widetilde{R}_t}\prod_{i=1}^{N}\left(\frac{1+w_{it}\overline{r}_{it}}{1+w_{it}r_{it}}\right)\right]^{1/N}\text{, and}$$

the values of Γ_t^S are $\Gamma_t^S=\left[\dfrac{1+\widetilde{R}_t}{1+\overline{R}_t}\prod_{i=1}^{N}\left(\dfrac{1+\overline{w}_{it}\overline{r}_{it}}{1+w_{it}\overline{r}_{it}}\right)\left(\dfrac{1+w_{it}\overline{R}_t}{1+\overline{w}_{it}\overline{R}_t}\right)\right]^{1/N}$.

18. (original) A computer readable medium which stores code for programming a processor to perform a geometric performance attribution computation to determine portfolio performance, relative to a benchmark, over multiple time periods t, where t varies from 1 to T, by determining attribution effects $1 + Q_{ijt}^G$ given by

$$1 + Q_{ijt}^G = \prod_k \left(\frac{1 + a_{ijt}^k}{1 + b_{ijt}^k} \right) \Gamma_{ijt}^k ,$$

where Γ_{ijt}^k are corrective terms that satisfy the constraint $\prod_{ij} (1 + Q_{ijt}^G) = \frac{1 + R_t}{1 + \overline{R}_t}$, each of

a_{ijt}^k and b_{ijt}^k is a coefficient for attribution effect j, sector i, and period t, R_t is a

portfolio return for period t, the coefficients a_{ijt}^k and b_{ijt}^k are obtained from arithmetic

attribution effects $Q_{ijt}^A = \sum_k a_{ijt}^k - \sum_k b_{ijt}^k$ which correspond to the attribution effects

$1 + Q_{ijt}^G$, $\overline{R}_t$ is a benchmark return for period t, R is determined by

$R = [\prod_{t=1}^T (1 + R_t)] - 1$, and $\overline{R}$ is determined by $\overline{R} = [\prod_{t=1}^T (1 + \overline{R}_t)] - 1$, and determining

the portfolio performance as $\dfrac{1 + R}{1 + \overline{R}} = \prod_{t=1}^T \prod_{i=1}^N \prod_{j=1}^M (1 + Q_{ijt}^G)$.

19. (original) The computer readable medium of claim 18, wherein $M = 2$,

$1 + Q_{i1t}^G$ are attribution effects for issue election given by $1 + Q_{i1t}^G = \dfrac{1 + w_{it} r_{it}}{1 + w_{it} \overline{r}_{it}} \Gamma_t^I$, and

$1 + Q_{i2t}^G$ are attribution effects for sector selection given by

$$1 + Q_{i2t}^G = \left(\frac{1 + w_{it} \overline{r}_{it}}{1 + \overline{w}_{it} \overline{r}_{it}} \right) \left(\frac{1 + \overline{w}_{it} \overline{R}_t}{1 + w_{it} \overline{R}_t} \right) \Gamma_t^S ,$$

where r_{it} is a portfolio return for sector i for period t, $\overline{r}_{it}$ is a benchmark return for

sector i for period t, w_{it} is a weight for r_{it}, $\overline{w}_{it}$ is a weight for $\overline{r}_{it}$, the values of Γ_t^I are

$$\Gamma_t^I = \left[\frac{1 + R_t}{1 + \widetilde{R}_t} \prod_{i=1}^N \left(\frac{1 + w_{it} \overline{r}_{it}}{1 + w_{it} r_{it}} \right) \right]^{1/N} , \text{ and}$$

the values of Γ_t^S are $\Gamma_t^S = \left[\dfrac{1+\widetilde{R}_t}{1+\overline{R}_t} \prod_{i=1}^{N} \left(\dfrac{1+\overline{w}_{it}\overline{r}_{it}}{1+w_{it}\overline{r}_{it}} \right) \left(\dfrac{1+w_{it}\overline{R}_t}{1+\overline{w}_{it}\overline{R}_t} \right) \right]^{1/N}$.